**Pre-Test Unit 1**

\_\_\_\_ 1. You rode your bicycle for 30 minutes and burned 190 calories. How many calories did you burn per minute?

|  |  |  |  |
| --- | --- | --- | --- |
| a. | 220 calories per minute | c. | 7.33333 calories per minute |
| b. | 220.053 calories per minute | d. | 6.33333 calories per minute |

\_\_\_\_ 2. It is known that a cyclist can travel 41.4 miles in 3 hours. At that rate, how far can the same cyclist travel in 7 hours?

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| a. | 95.2 miles | b. | 97.8 miles | c. | 96.6 miles | d. | 97.4 miles |

\_\_\_\_ 3. At Dr. Carrey's clinic, 42% more patients are treated for flu symptoms in the winter than in the summer. Which is an algebraic expression for the number of flu cases in the winter?

|  |  |  |  |
| --- | --- | --- | --- |
| a. |  | c. |  |
| b. |  | d. |  |

\_\_\_\_ 4. Make an input-output table for the function *y* = 2*x* + 4. Use *x*-values of 1, 2, 3, 4, and 5.

|  |  |  |  |
| --- | --- | --- | --- |
| a. |  | c. |  |
| b. |  | d. |  |

\_\_\_\_ 5. Which function rule matches the input-output table?

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Input, *x* | 1 | 2 | 3 | 4 | 5 |
| Output, *y* | 7 | 11 | 15 | 19 | 23 |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| a. |  | b. |  | c. |  | d. |  |

\_\_\_\_ 6. Which equation corresponds to the values in the table below?

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Input, *x* | 1 | 2 | 3 | 4 | 5 |
| Output, *y* | 17 | 26 | 35 | 44 | 53 |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| a. | *y* = 8*x* + 9 | b. | *y* = 9*x* + 7 | c. | *y* = 9*x* + 8 | d. | *y* = 10*x* + 8 |

\_\_\_\_ 7. For which value of *x* is the relation *not* a function?

{(0, 1), (*x*, 0), (3, 5), (2, 6)}

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| a. | 1 | b. | 3 | c. | 4 | d. | 6 |

\_\_\_\_ 8. Employees earn $5 per hour plus $0.75 for every unit they produce per hour. Which of the following shows both an equation in which *y* represents the employee's wages for producing *x* units per hour, and the graph of the wages earned for producing 2, 5, 8, and 10 units per hour?

|  |  |  |  |
| --- | --- | --- | --- |
| a. |  | c. |  |
| b. |  | d. |  |

\_\_\_\_ 9. Find the slope of the line passing through the points *A*(–1, 1) and *B*(4, –5).

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| a. |  | b. |  | c. |  | d. |  |

\_\_\_\_ 10. Which graph below would match the situation described?

A car travelling at 23 mi/h accelerates to 45 mi/h in 5 seconds. It maintains that speed for the next 5 seconds, and then slows to a stop during the next 5 seconds.

|  |  |  |  |
| --- | --- | --- | --- |
| a. |  | c. |  |
| b. |  | d. |  |

**Which is the equation for the linear function *f* in the form  that has the given values?**

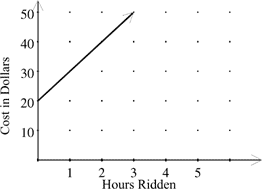
\_\_\_\_ 11. , 

|  |  |  |  |
| --- | --- | --- | --- |
| a. |  | c. |  |
| b. |  | d. |  |

\_\_\_\_ 12. , 

|  |  |  |  |
| --- | --- | --- | --- |
| a. |  | c. |  |
| b. |  | d. |  |

\_\_\_\_ 13. The graph for a stable that charges a $20 flat fee plus $10 per hour for horseback riding is shown below. How will the graph change if the stable changes its charges to a flat fee of $45 plus $30 per hour?



|  |  |
| --- | --- |
| a. | The slope will be 30 and the *y*-intercept will be 45. |
| b. | The slope will be 10 and the *y*-intercept will be 45. |
| c. | The slope will be 30 and the *y*-intercept will be 20. |
| d. | The slope will be 45 and the *y*-intercept will be 30. |

**Solve and graph the inequality.**

\_\_\_\_ 14. 

|  |  |
| --- | --- |
| a. |  |
| b. |  |
| c. |  |
| d. |  |

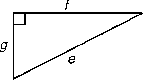
\_\_\_\_ 15. Graph: 

|  |  |  |  |
| --- | --- | --- | --- |
| a. |  | c. |  |
| b. |  | d. |  |

\_\_\_\_ 16. How long is a string reaching from the top of a 13-ft pole to a point on the ground that is 7 ft from the base of the pole?

|  |  |  |  |
| --- | --- | --- | --- |
| a. | ft | c. | ft |
| b. | ft | d. | ft |

\_\_\_\_ 17. For the triangle shown below, the Pythagorean Theorem states that \_\_\_\_\_.



|  |  |  |  |
| --- | --- | --- | --- |
| a. |  | c. |  |
| b. | *e* = *f* + *g* | d. |  |

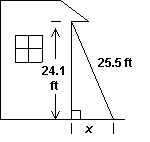
\_\_\_\_ 18. Which of the following sets of numbers is a Pythagorean triple?

|  |  |  |  |
| --- | --- | --- | --- |
| a. | , , | c. |  |
| b. | 12, 16, 20 | d. |  |

\_\_\_\_ 19. A set of Pythagorean triples is \_\_\_\_\_.

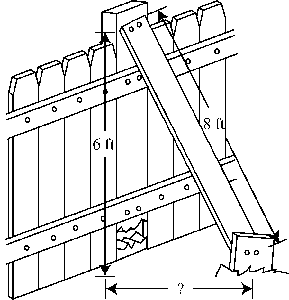
|  |  |  |  |
| --- | --- | --- | --- |
| a. | 3, 5, 9 | c. | 6, 9, 12 |
| b. | 1, 1, 2 | d. | 5, 12, 13 |

\_\_\_\_ 20. A 25.5 foot ladder rests against the side of a house at a point 24.1 feet above the ground. The foot of the ladder is *x* feet from the house. Find the value of *x* to one decimal place.



|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| a. | 1.9 | b. | 7.0 | c. | 8.3 | d. | 10.1 |

\_\_\_\_ 21. A board 8 feet long is to be used as a temporary brace for a section of fence that has a broken post. If the board is nailed to the fence 6 feet above ground level, about how far from the base of the fence is the other end of the board when it is fastened to a stake in the ground?



|  |  |  |  |
| --- | --- | --- | --- |
| a. | 7.2 feet | c. | 6.8 feet |
| b. | 5.3 feet | d. | 2 feet |

\_\_\_\_ 22. Which set of lengths cannot form a right triangle?

|  |  |  |  |
| --- | --- | --- | --- |
| a. | 6 mm, 12 mm, 13 mm | c. | 2.5 mm, 6 mm, 6.5 mm |
| b. | 5 mm, 12 mm, 13 mm | d. | 10 mm, 24 mm, 26 mm |

\_\_\_\_ 23. If the side lengths of a triangle are 7, 6, and 9, the triangle \_\_\_\_\_.

|  |  |  |  |
| --- | --- | --- | --- |
| a. | is an obtuse triangle | c. | is an acute triangle |
| b. | is a right triangle | d. | cannot be formed |

\_\_\_\_ 24. Choose the set that is the possible side lengths of a right triangle.

|  |  |  |  |
| --- | --- | --- | --- |
| a. | 1, 1, 2 | c. | 3, 4, 7 |
| b. | 1, 1, | d. | 3, 5, 9 |

\_\_\_\_ 25. Choose the set that is the possible side lengths of a right triangle.

|  |  |  |  |
| --- | --- | --- | --- |
| a. | 4, 9, 13 | c. | 1, 1, 2 |
| b. | , , 2 | d. | 8, 15, 25 |

**Pre-Test Unit 1**

**Answer Section**

1. ANS: D PTS: 1 DIF: Level B REF: MALG0104

STA: GA.GPS.MTH.04.6-12.M6P1.a | GA.GPS.MTH.04.6-12.M6P1.b

TOP: Lesson 1.3 Write Expressions KEY: unit | rate BLM: Application

NOT: 978-0-618-65612-7

2. ANS: C PTS: 1 DIF: Level B REF: MALG0167

TOP: Lesson 1.3 Write Expressions KEY: ratio | word | rate | time | distance

BLM: Application NOT: 978-0-618-65612-7

3. ANS: B PTS: 1 DIF: Level B REF: MALG0212

TOP: Lesson 1.3 Write Expressions KEY: word | expression | pattern | algebraic | percent | write

BLM: Application NOT: 978-0-618-65612-7

4. ANS: A PTS: 1 DIF: Level B REF: MALG0203

TOP: Lesson 1.6 Represent Functions as Rules and Tables

KEY: graph | output | function | table | input BLM: Knowledge

NOT: 978-0-618-65612-7

5. ANS: B PTS: 1 DIF: Level B REF: MALG0205

TOP: Lesson 1.6 Represent Functions as Rules and Tables KEY: output | function | table | input

BLM: Comprehension NOT: 978-0-618-65612-7

6. ANS: C PTS: 1 DIF: Level B REF: MALG0213

TOP: Lesson 1.6 Represent Functions as Rules and Tables KEY: output | function | table | rule | input

BLM: Comprehension NOT: 978-0-618-65612-7

7. ANS: B PTS: 1 DIF: Level B

REF: 7f1df655-cdbb-11db-b502-0011258082f7

TOP: Lesson 1.6 Represent Functions as Rules and Tables KEY: relation | function

BLM: Knowledge NOT: 978-0-618-65612-7

8. ANS: A PTS: 1 DIF: Level B REF: MALG0232

TOP: Lesson 1.7 Represent Functions as Graphs

KEY: equation | word | system | rectangular | graph | coordinate | plot

BLM: Application NOT: 978-0-618-65612-7

9. ANS: A PTS: 1 DIF: Level B REF: MALG0645

TOP: Lesson 4.4 Find Slope and Rate of Change KEY: slope

BLM: Comprehension NOT: 978-0-618-65612-7

10. ANS: C PTS: 1 DIF: Level B REF: MALG0666

TOP: Lesson 4.4 Find Slope and Rate of Change KEY: interpret | graph

BLM: Analysis NOT: 978-0-618-65612-7

11. ANS: A PTS: 1 DIF: Level B REF: MALG0763

TOP: Lesson 5.2 Use Linear Equations in Slope-Intercept Form

KEY: function | linear | point | slope-intercept BLM: Comprehension

NOT: 978-0-618-65612-7

12. ANS: A PTS: 1 DIF: Level B REF: MALG0764

TOP: Lesson 5.2 Use Linear Equations in Slope-Intercept Form

KEY: function | linear | point | slope-intercept BLM: Comprehension

NOT: 978-0-618-65612-7

13. ANS: A PTS: 1 DIF: Level B REF: MALG0806

TOP: Lesson 5.2 Use Linear Equations in Slope-Intercept Form

KEY: linear | graph | change | slope | intercept BLM: Comprehension

NOT: 978-0-618-65612-7

14. ANS: B PTS: 1 DIF: Level B REF: MALG0893

TOP: Lesson 6.3 Solve Multi-Step Inequalities

KEY: graph | inequality | solve | number line BLM: Knowledge

NOT: 978-0-618-65612-7

15. ANS: D PTS: 1 DIF: Level B REF: MALG0967

TOP: Lesson 6.7 Graph Linear Inequalities in Two Variables KEY: graph | inequality

BLM: Knowledge NOT: 978-0-618-65612-7

16. ANS: C PTS: 1 DIF: Level B REF: MGEO0018

TOP: Lesson 7.1 Apply the Pythagorean Theorem

KEY: solve | word | right triangles | Pythagorean Theorem BLM: Application

NOT: 978-0-618-65613-4

17. ANS: D PTS: 1 DIF: Level B REF: HLGM0706

NAT: NCTM 9-12.GEO.1.a TOP: Lesson 7.1 Apply the Pythagorean Theorem

KEY: Pythagorean Theorem BLM: Knowledge NOT: 978-0-618-65613-4

18. ANS: B PTS: 1 DIF: Level B REF: MLGE0158

NAT: NCTM 9-12.GEO.1.a TOP: Lesson 7.1 Apply the Pythagorean Theorem

KEY: Pythagorean triples | Pythagorean Theorem BLM: Knowledge

NOT: 978-0-618-65613-4

19. ANS: D PTS: 1 DIF: Level B REF: HLGM0701

NAT: NCTM 9-12.GEO.1.a TOP: Lesson 7.1 Apply the Pythagorean Theorem

KEY: Pythagorean triples | Pythagorean Theorem BLM: Knowledge

NOT: 978-0-618-65613-4

20. ANS: C PTS: 1 DIF: Level A REF: HLGM0704

NAT: NCTM 9-12.PRS.2 TOP: Lesson 7.1 Apply the Pythagorean Theorem

KEY: right triangles | Pythagorean Theorem BLM: Application

NOT: 978-0-618-65613-4

21. ANS: B PTS: 1 DIF: Level A REF: MC100105

NAT: NCTM 9-12.PRS.2 TOP: Lesson 7.1 Apply the Pythagorean Theorem

KEY: word | real-life | Pythagorean Theorem BLM: Knowledge

NOT: 978-0-618-65613-4

22. ANS: A PTS: 1 DIF: Level B REF: DITT0026

NAT: NCTM 9-12.GEO.1.a TOP: Lesson 7.2 Use the Converse of the Pythagorean Theorem

KEY: right triangles | Pythagorean Theorem converse BLM: Knowledge

NOT: 978-0-618-65613-4

23. ANS: C PTS: 1 DIF: Level B REF: HLGM0713

NAT: NCTM 9-12.GEO.1.a TOP: Lesson 7.2 Use the Converse of the Pythagorean Theorem

KEY: classifying triangles BLM: Knowledge NOT: 978-0-618-65613-4

24. ANS: B PTS: 1 DIF: Level B REF: MLGE0156

TOP: Lesson 7.2 Use the Converse of the Pythagorean Theorem

KEY: right triangles | Pythagorean Theorem converse BLM: Knowledge

NOT: 978-0-618-65613-4

25. ANS: B PTS: 1 DIF: Level B REF: MLGE0157

TOP: Lesson 7.2 Use the Converse of the Pythagorean Theorem

KEY: right triangles | sides | Pythagorean Theorem converse BLM: Knowledge

NOT: 978-0-618-65613-4